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Online learning, or e-Learning, is becoming a large component of our country's education system. Nationally, nearly two out of three colleges and universities believe that online learning is critical to their institution's long term strategy.¹ Almost 30% of higher education students in the nation take at least one course online.² e-Learning can also have a positive impact on education in Nevada.

Supporting Nevada's educational system is a priority for the state's growth and economic prosperity. By 2018, 62% of jobs will require a college degree, yet only 29% of Nevada's adult population have an associate's degree or higher.³ Additionally, improving the K-12 education system could potentially improve the workforce, increase income levels in the state, reduce social costs, and elevate home values.⁴ Higher education investment can also strengthen the business environment through innovation, research and development, and information sharing.⁵

Technology can provide many benefits to Nevada's education system. Increasing computer usage in schools through one-on-one computer programs or Bring Your Own Technology/Device (BYOT/D) programs can provide more flexible education opportunities and more individualized learning experiences for students.⁶ Broadband technology can help improve school connectivity, personalize learning experiences, and improve decision-making with electronic educational records. Broadband technology also provides the ability for students to access a myriad of educational tools online, commonly called e-Learning.⁷

In its 2011 Residential Technology Assessment, Connect Nevada examined the role of broadband in education in Nevada. The results of this analysis show that broadband and technology can improve academic opportunities throughout the state.

e-Learning in Nevada

Across the state, many students are taking advantage of the educational opportunities made possible through broadband service. In Nevada, the number of higher education students who were enrolled in at least one distance education course increased from 5,798 in 2001 to 31,186 in 2008 – this is an increase of 25,388 students, or a 438% rate of growth.⁸ Currently, 57 degrees and 15 certificate programs are available through state colleges and universities, with plans to make an additional 18 degrees attainable in the near future.⁹

Among the findings from this survey:

- Approximately **747,000** Nevadan Internet users (44%) go online for educational purposes.
- Nevadans who are younger, employed, and have higher education levels are **more likely** to be e-Learners.
- Rural Nevadan Internet users are significantly **more likely** to be e-Learners than non-rural Internet users. Over **55%** of rural Nevadan Internet users, or 95,000 Nevadans, go online for education.
- Nevada e-Learners rely on broadband for their educations: **86%** of Nevada e-Learners subscribe to home broadband service.
- Nearly **two out of three** Nevada parents (63%) report that their children use the Internet for their schoolwork (either at home or in the classroom).

1 The Sloan Consortium, Class Differences: Online Education in the United States, 2010. http://sloanconsortium.org/publications/survey/class_differences

2 Ibid.

3 <http://www.completecollege.org/>

4 Education Alliance of Washoe County, Ibid.

5 Education Alliance of Washoe County, Ibid.

6 U.S. Department of Commerce and National Telecommunications and Information Administration, "Mobile Technology in Schools K-12 Affinity Group Presentation," August 7, 2012.

7 Federal Communications Commission, *National Broadband Plan*, <http://www.broadband.gov/plan/11-education/>

8 Nevada System of Higher Education, "NSHE 2009-2010 Distance Education Report," <http://system.nevada.edu/tasks/sites/Nshe/assets/File/Academics/reports/2009-2010-DE-Report.pdf>

9 Nevada System of Higher Education, Ibid.

Connect Nevada research shows that approximately 747,000 Nevadan Internet users (44%) report using the Internet for online classes or to conduct research for school (Figure 1). Of Nevadans who access the Internet via their cell phones, 15%, or 122,000 Nevadans, are conducting e-Learning on these devices. Both of these percentages are on par with the Connected Nation average for all states surveyed in 2011.¹⁰

e-Learning by Selected Demographics

The use of e-Learning applications varies by demographic groups in Nevada (Table 1). Nevadans who are younger, employed, and have higher education levels are more likely to be e-Learners. This indicates that online learning may positively impact both educational attainment levels and employment in the state.

- Nevadan Internet users age 18 to 24 are more likely to use e-Learning applications than other age groups in the state. Over two-thirds (68%), or 149,000 young Nevadans in this age group, are using the Internet to boost their educational opportunities.
- There is little difference in e-Learning among Nevadan Internet users based on their annual household incomes. However, there is an increase in usage among Nevadan Internet users whose annual household incomes are \$50,000 or greater.
- Employed Nevadan Internet users are significantly more likely to go online for e-Learning than those who are not employed. Almost one-half (49%) of employed Internet users in the state go online for education, compared to only 36% of those who are not employed.
- Over 112,000 Hispanic Internet users, or 49% of that demographic group, are going online for e-Learning in Nevada. African Americans use it the least with only 41% of Internet users conducting e-Learning.
- Nevadans with at least some college education are more likely to go online for educational purposes than those with no college education. Nearly one-half (49%) of these Nevadans find the Internet to be a tool to help further their education, compared to only 33% of those with no college education.
- Of particular note, Nevadan Internet users who reside in rural counties within the state are significantly more likely to go online for their educations than those who live in urban and suburban counties. Over 55%, or approximately 95,000 Nevadan Internet users, in these geographically-isolated portions of the state are better able to access educational opportunities due to broadband.

Figure 1.
Percent of Internet Users Who Are e-Learners

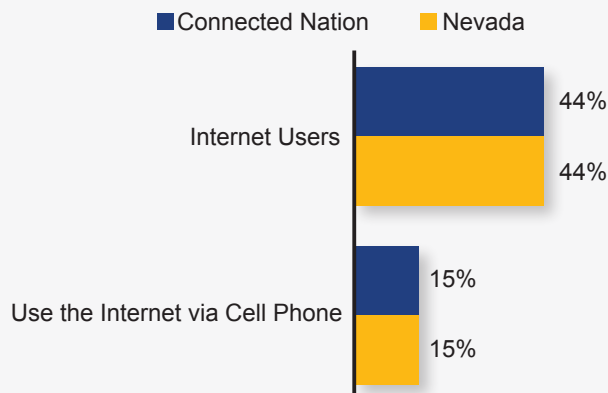


Table 1.
Nevada e-Learners by Demographic

	% of Internet Users
State Average	44%
Age	
Age 18-24	68%
Age 25-34	48%
Age 35-44	50%
Age 45-64	38%
Age 65 and older	14%
Annual Household Income	
Less than \$25,000	42%
\$25,000-\$49,999	43%
\$50,000-\$74,999	49%
\$75,000 or more	48%
Employment Status	
Employed	49%
Not Employed	36%
Race/Ethnicity	
Caucasian	43%
Hispanic	49%
Black, or African American	41%
Other Minorities	56%
Education	
No college education	33%
Any college education	49%
Some college	51%
College graduate	42%
Advanced studies/degree	56%
Rural Status	
Rural	55%
Non-Rural	43%

¹⁰ Connected Nation conducted similar surveys in ten states in 2011: Alaska, Florida, Iowa, Michigan, Minnesota, Nevada, Ohio, South Carolina, Tennessee, and Texas.

Type of Internet Service Used for Education

A 2011 survey of over 400 Western Nevada College (WNC) students shows that broadband is important to higher education in Nevada. Over nine out of ten students surveyed at WNC (91%) report that they access the Internet with cable, DSL, or satellite service; the remaining students use mobile broadband (6.5%) or dial-up (2.3%) to access the Internet.¹¹

Connect Nevada research supports this reliance on broadband for education. More than one in eight Nevada broadband subscribers (13%) report that their main reason for subscribing to broadband was that someone in their home needed it for school. Further, approximately 86% of Nevada e-Learners report that they subscribe to home broadband service (Figure 2). The remaining e-Learners rely on dial-up service (5%) or access outside of the home (7%) at libraries, schools, or other peoples' homes.

Broadband and K-12 Education

Broadband is an important educational tool for all members of Nevadan households. Across the state, over 7,000 K-12 students are enrolled in full-time online schools, and online enrollments have increased by 55% between the 2008-2009 and 2010-2011 school years.¹² One virtual statewide public charter school, the Beacon Academy of Nevada, allows any school-age resident of the state to enroll at no cost and will loan computers to families who need them.¹³

Connect Nevada's research shows that nearly two out of three Nevada households with children (63%) report that their children use the Internet for their schoolwork at home or in the classroom (Figure 3). This includes one-half of all Nevada parents (50%) who say that their children are using the Internet at home for schoolwork, equating to approximately 218,000 children in the state who are going online from home for their educations.¹⁴

Figure 2.
Type of Internet Service Used
by Nevada e-Learners

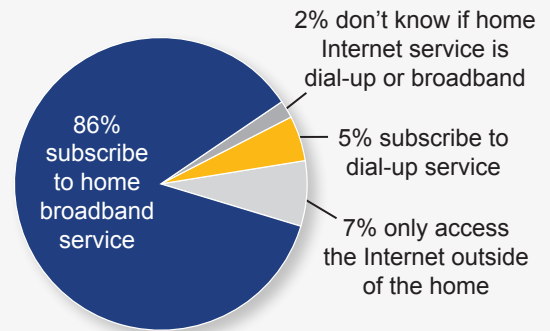
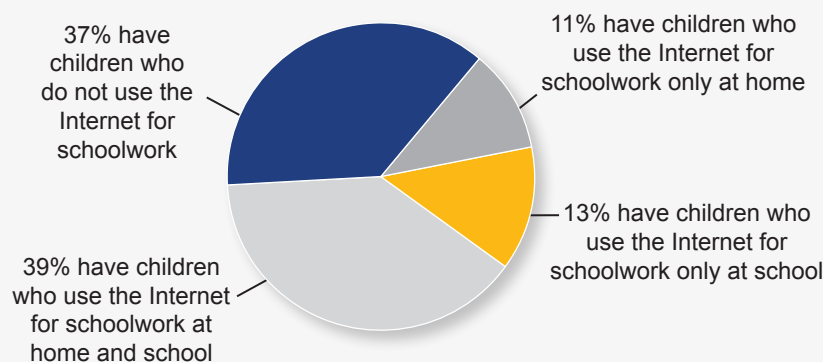


Figure 3.
Nevada Households with Children



11 Maise, Clarence, Western Nevada College, "What type of access do you have to the internet?", <http://wnctraining.org/?p=885>

12 Evergreen Education Group, *Keeping Pace with K-12 Online Learning*, <http://kpk12.com/cms/wp-content/uploads/KeepingPace2011.pdf>

13 <http://beaconacademynv.org/About/Default.aspx>

14 Based on U.S. Census, Children Characteristics, 2011 American Community Survey 1-Year Estimates, <http://factfinder2.census.gov>

Some Nevada demographic groups are more likely to have children using the Internet at home for school than others (Table 2). Nevadan homes where the head of household is age 35 or older are more likely to have children going online for schoolwork than those ages 18 to 34. Income also plays a significant role in childrens' use of the Internet for schoolwork. Over one-half (55%) of Nevadan households with children earning annual incomes of \$25,000 or more report that their children go online for schoolwork, significantly higher than the 33% of households with children with annual incomes less than \$25,000.

While Nevada adults residing in rural parts of the state are significantly more likely to use the Internet for education than non-rural adults, children in rural households are less likely to use the Internet at home for schoolwork than those in non-rural households.

Parental education and experiences with digital learning may have some impact on how Nevadan children use education at home for school. Of Nevadan parents who have at least some college education, 60% report that their children use their home Internet connection for schoolwork, a significantly higher percentage than the 35% of parents who have no college education. Two out of three Nevada parents who are e-Learners (66%) report that their children use the Internet at home for schoolwork. This suggests that parents who see the value of technology and education are better equipped to help their children leverage these tools for learning.

e-Learning and Its Impact on Education in Nevada

Broadband has the potential to assist Nevadan households at every step of the educational process, from going online for homework to helping parents stay in contact with teachers and administrators. Students across the country are not just using this technology to access educational resources; they and their parents are also using it to better communicate about their educations.¹⁵ An example of this in Nevada is the Lyon County School District, which has an online student grading and attendance system that allows students, parents, and staff members to access information online. During just one month of tracking the online system's usage in the 2011-2012 school year, nearly 40% of district students had their records accessed by either the students themselves or their parents.¹⁶

Through its many applications, online education enables a large portion of Nevada's population to improve the quality of their educations and to access opportunities outside of traditional classrooms. Approximately 747,000 adult Nevadans are going online for educational opportunities in the state. This includes 95,000 Nevadans in rural portions of the state. Children in the state are also using the Internet for educational purposes, with over 60% of Nevadan parents reporting that their children use the Internet for schoolwork at home or at school.

However, there are quite a few Nevada families who are not yet using the Internet to assist in their educations. By increasing broadband access, adoption, and use in the state, and providing even more e-Learning opportunities for residents, Nevada may see many benefits to its educational system.

¹⁵ Bouffard, Suzanne, "Tapping Into Technology: The Role of the Internet in Family-School Communication", <http://www.hfrp.org/publications-resources/publications-series/family-involvement-research-digests/tapping-into-technology-the-role-of-the-internet-in-family-school-communication>

¹⁶ Lyon County School District, "Lyon County School District PowerSchool Access History By School", November 2011.

Table 2.
Nevada Households with Children
Where Children Use Home
Internet Service for Schoolwork

	% Whose Children Use the Internet for Schoolwork
State Average	50%
Head of Household's Age	
Age 18-34	29%
Age 35 and older	66%
Annual Household Income	
Less than \$25,000	33%
\$25,000 or more	55%
Head of Household's Race/Ethnicity	
Caucasian	53%
Minority	47%
Head of Household's Education	
No college education	35%
College education	60%
Rural Status	
Rural	44%
Non-Rural	51%
Parents are e-Learners	
e-Learner	66%
Not an e-Learner	34%

Methodology and Definitions

Between June 29 and August 16, 2011, Connect Nevada conducted a random digit dial telephone survey of 1,202 adults across the state. Of the 1,202 respondents randomly contacted statewide, 202 were called on their cellular phones and 1,000 were contacted via landline telephone. On average, each survey took approximately 11 minutes to complete. Data were collected by Thoroughbred Research Group in Louisville, KY. The results of this survey have been compared to similar surveys that Connected Nation conducted across ten states in 2011 (Alaska, Florida, Iowa, Michigan, Minnesota, Nevada, Ohio, South Carolina, Tennessee, and Texas). This research was designed to measure technology adoption trends and the awareness of available broadband service. The survey results were subsequently peer reviewed by experts at the Center of Resource Economics at the University of Nevada, Reno.

Internet users are defined as respondents who answered “yes” when asked “Do you subscribe to the Internet at home?” and answered “every day, several times per week, or once per week or less” when asked “How often, if ever, do you go online from home?” or who answered “yes” when asked “Do you use the Internet from any locations outside of your own home?”

Respondents who access the Internet via a cell phone are defined as those who answered “yes” when asked “Is your cell phone capable of accessing the Internet” and answered “every day, several times per week, or once per week or less” when asked “How often, if ever, do you go online using your cell phone?”

Multiple attempts were made to each working telephone number on different days of the week and at different times of the day to increase the likelihood of contacting a potential respondent. To ensure a representative sample, quotas were set by age, gender, and county of residence (rural or non-rural), and the results were weighted to coincide with 2010 United States Census population figures. For the purpose of setting quotas and weighting, “rural” respondents are defined as living in a census area that is not a part of a Metropolitan Statistical Area (MSA), as designated by the United States Office of Management and Budget. Weighting and design consultation were provided by Lucidity Research.

Surveys were conducted by Thoroughbred Research Group. Based on the effective sample size, the margin of error = $\pm 3.24\%$ at a 95% level of confidence for the statewide survey. As with any survey, question wording and the practical challenges of data collection may introduce an element of error or bias that is not reflected in this margin of error.



APPENDIX A: Select Sample Sizes

2011 Residential Assessment

	Connected Nation Average (n)	2011 Nevada (n)
Total	12,004	1,202
Internet use at home or someplace else	9,555	984
Access the Internet via cell phone	3,573	420
Have children at home	4,158	429

2011 Connect Nevada Residential Technology Assessment

Demographic Categories	2011 Nevada (n)	Nevada Internet Users (n)	Nevada Households with Children (n)
Rural	378	314	164
Non-Rural	824	670	265
Age 18-24	82	72	34
Age 25-34	200	186	124
Age 35-44	215	192	146
Age 45 and older	705	534	125
Households with annual incomes less than \$25,000	233	136	69
Households with annual incomes of \$25,000-\$49,999	258	215	99
Households with annual incomes of \$50,000-\$74,999	199	180	76
Households with annual incomes of \$75,000 or more	300	292	131
Employed	649	597	290
Not employed	517	362	132
Caucasian	870	732	295
Black, or African American	79	59	27
Hispanic	130	101	63
Other Minorities	90	71	44
No college education	377	245	136
At least some college education	780	709	281